

REMARKS

Applicants respectfully request reconsideration of the present case in view of the above amendments and the following remarks.

Claims 14-18 have been added. Claims 9 and 10 have been amended. Claims 9-18 are currently pending. No new matter has been inserted. Support for the amendment of claims 9 and 10 can be found in the specification at least at pages 7 and 19. Support for new claim 14 can be found in original claims 3, 4, and 9. Support for new claim 15 can be found in original claim 12. Support for new claim 16 can be found in original claims 3, 4, and 10. Support for new claim 17 can be found in original claim 11. Support for new claim 18 can be found in original claim 13.

Drawings

Figure 7 was objected to because the anode wiring was not shown. While not conceding the correctness of the Examiner's position, in the interest of advancing prosecution, Applicants have amended Figure 7 to show the anode wiring. Applicants have also amended Figure 6 to show the anode wiring. Applicants respectfully request that this objection be withdrawn.

35 U.S.C. § 112

Claims 9-13 were rejected under 35 U.S.C. § 112, second paragraph, as not enabled. Applicants respectfully traverse this rejection.

While not conceding the correctness of the Examiner's position, in the interest of advancing prosecution, Applicants have amended claims 9 and 10 in order to render the rejection moot. Specifically, Applicants have amended claims 9 and 10 to include the feature of anode wiring. Applicants respectfully request that this rejection be withdrawn.

35 U.S.C. § 102(e)

Claims 9 and 12 were rejected under 35 U.S.C. § 102(e) as anticipated by Uemura et al. (U.S. 6,239,547). Applicants respectfully traverse this rejection.

The Examiner stated that it is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation citing MPEP § 2113. However, this section provides that “the structure implied by the process steps should be considered when assessing the patentability of product-by-process claims especially . . . where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product.” See MPEP § 2113; *In re Garnero*, 412 F.2d 276, 279 (C.C.P.A. 1979). The present claim has product-by-process elements that impart distinctive structural characteristics to the final product and therefore the Examiner should afford them patentable weight.

Uemura discloses removing polycarbon powder, used as support particles, by laser irradiation leaving behind carbon nanotubes (col. 16, lines 56 to col. 17, line 2). The laser irradiation in Uemura is intended to increase the ratio of the tips of the carbon nanotubes exposed on the surface of the element (col. 16, line 66). Thus the laser irradiation removes the polycarbon powder only at the surface of the element.

Claim 9 includes the feature of “wherein, after the firing, the support particles are decomposed, forming voids in an aggregation of the carbon particles.” However, laser irradiation provided only to the surface, as disclosed by Uemura, cannot remove the polycarbon powder beyond the surface in order to create voids. Accordingly, Uemura does not anticipate claim 9. As claim 12 is dependent on claim 9, it is also not anticipated by Uemura.

To the extent that this rejection is applied to new claims 14 and 16, Applicants point out that these claims also have product-by-process elements that impart distinctive structural characteristics to the final product and therefore the Examiner should afford them patentable weight.

35 U.S.C. § 103(a)

Claims 10-11 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Uemura et al. (U.S. 6,239,574). Applicants respectfully traverse this rejection.

The Examiner stated that it is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation citing MPEP § 2113. However, as stated above, this section provides that “the structure implied by the process steps should be considered when assessing the patentability of product-by-process claims especially . . . where the manufacturing process steps would be expected to impart distinctive structural characteristics to

the final product.” See MPEP § 2113; *In re Garnero*, 412 F.2d 276, 279 (C.C.P.A. 1979). The present claim has product-by-process elements that impart distinctive structural characteristics to the final product and therefore the Examiner should afford them patentable weight.

As stated above, Uemura discloses removing polycarbon powder, used as support particles, by laser irradiation leaving behind carbon nanotubes (col. 16, lines 56 to col. 17, line 2). The laser irradiation in Uemura is intended to increase the ratio of the tips of the carbon nanotubes exposed on the surface of the element (col. 16, line 66). Thus the laser irradiation removes the polycarbon powder only at the surface of the element.

Claim 10 includes the feature of “wherein, after the firing, the support particles are decomposed, forming voids in an aggregation of the carbon particles.” However, laser irradiation provided only to the surface, as disclosed by Uemura, cannot remove the polycarbon powder beyond the surface in order to create voids. Accordingly, Uemura does not disclose or suggest every element of claim 10. Therefore, Uemura does not render the invention of claim 10 obvious. As claims 11 and 13 are dependent on claim 10, they are also not obvious.

To the extent that this rejection is applied to new claims 14 and 16, Applicants point out that these claims also have product-by-process elements that impart distinctive structural characteristics to the final product and therefore the Examiner should afford them patentable weight.

Summary

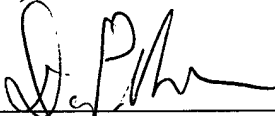
In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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Date: _____

June 9, 2004



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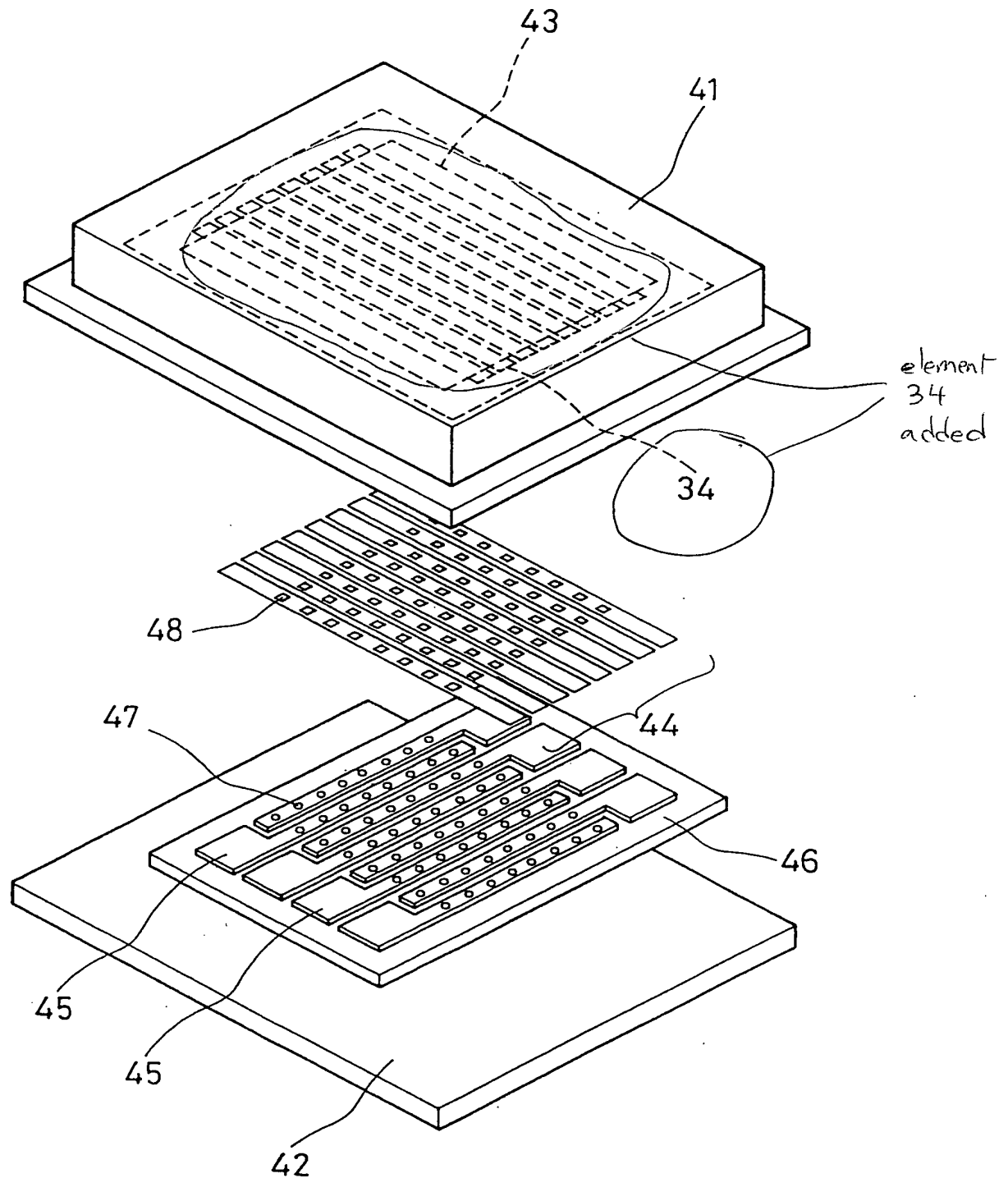


FIG. 6

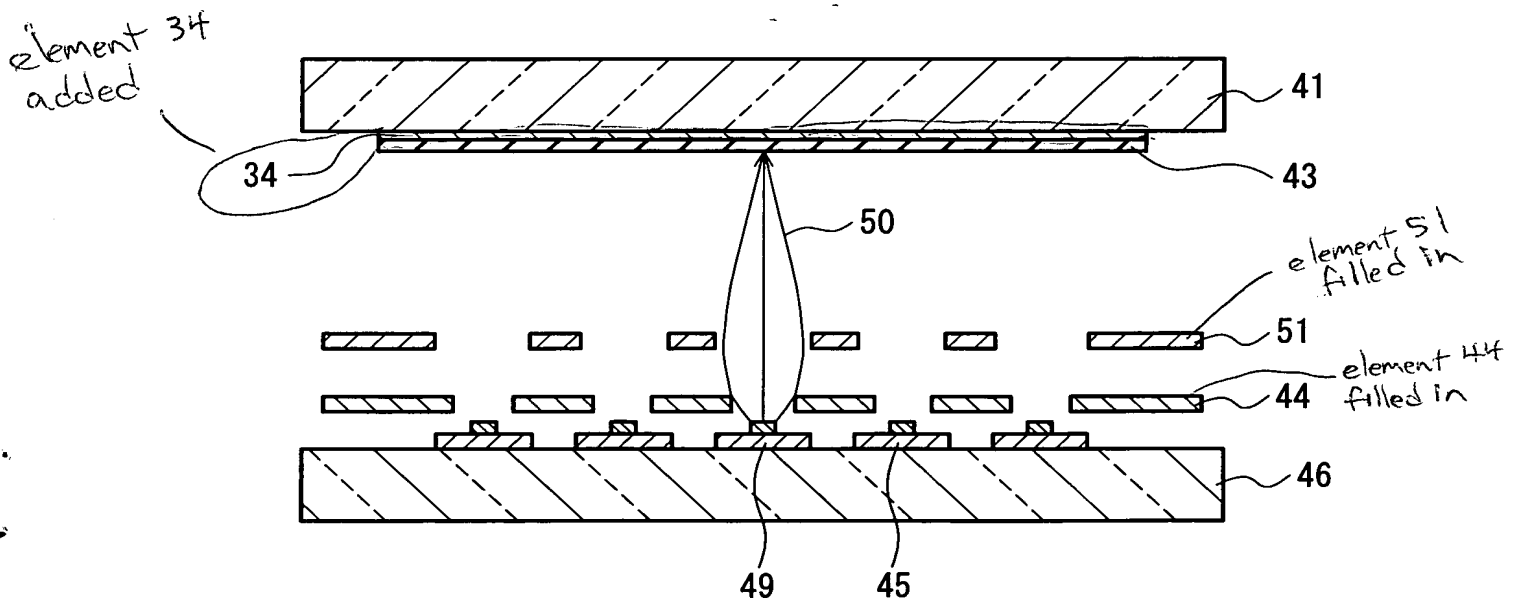


FIG. 7